

An image recording apparatus has a converting device which converts a first image signal into a second image signal by employing an image signal converting condition, a recording device for recording an image by signal values of the second image signal, a measuring device for reading a test chart image recorded by the recording device by test chart output image signal values to acquire measurement density values, a selecting device for selecting reference density values corresponding to the measurement density values from target density data which indicates a relationship between the first image signal and target density of an image recorded on a recording medium, and a calculating device for calculating target image signal values based upon the target density data and the reference density values and for calculating the image signal converting condition based upon both the target image signal values and the test chart output image signal values.